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EXAMINER

BLOOM, NATHAN J

ART UNIT

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PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No. 10/531,229	Applicant(s) NAPPER, JONATHON LEIGH	
	Examiner NATHAN BLOOM	Art Unit 2624	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 04 March 2009.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1,3-14 and 17-22 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1,3-14 and 17-22 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____ |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date <u>03/02/2008</u> . | 6) <input type="checkbox"/> Other: _____ |

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DETAILED ACTION

Applicants' response to the last Office Action, filed on March 4th, 2009 has been entered and made of record.

Response to Amendment

1. The amendments to claims 5-22 have successfully corrected the improper multiple dependency issues explained in the previous office action. The objection to claims 5-22 as being in improper form has been withdrawn due to the amendment.

Response to Arguments

2. Applicant's arguments with respect to claims 1, 3-14, and 17-22 have been considered but are moot in view of the new ground(s) of rejection.

Claim Rejections - 35 USC § 102

3. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

4. Claims 1, 4-6, 13-14, and 19-22 are rejected under 35 U.S.C. 102(e) as being anticipated by Lapstun et al. (US 2003/0091234).

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Instant Claim 1: A method of interpreting data input to an electronic form-based data entry system, including the steps of, performed in a processing system:

receiving movement data from a moveable input device, the movement data associated with a particular field of an electronic form and being generated by the moveable input device based on movement of the moveable input device within a corresponding particular field of a printed form associated with the electronic form; *[Lapstun has taught in paragraphs 0106-0107 a system and method for presenting a form containing various fields that the user can select and fill-in (handwritten data) areas of the electronic form that has been printed using a pen like device (moveable input device).]*

determining one or more possible variables of information content in the movement data by applying at least one handwriting algorithm to the movement data; and *[Based on the measured strokes, pen position, and pen orientation the device performs handwriting recognition (paragraphs 0228-0234 and 0260 of Lapstun).]*

determining a preferred variable of the information content by utilising at least one parameter associated with the particular field of the electronic form. *[See the above comments and cited paragraphs of Lapstun, wherein the various data is utilized with respect to a particular field of the electronic form (Table 2 on page 13 of Lapstun).]*

Instant Claim 4: The method as claimed in claim 1, wherein determining the preferred variable of the information context is performed contemporaneously with receiving the movement data. *[As per paragraph 0264 of Lapstun, the handwriting recognition algorithm utilizing the various variables is online recognition and thus is performed as the data is received.]*

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Instant claim 5: The method as claimed in claim 1, wherein the moveable input device is a pen-like device. [*Paragraphs 0223-0238 of Lapstun.*]

Instant claim 6: The method as claimed in claim 1, wherein determining the possible variables of information content utilises stroke information contained within the movement data.

[*Paragraphs 0239 and 0257 of Lapstun.*]

Instant claim 13: The method as claimed in claim 1, wherein the particular field of the electronic form from the set including: zip/post code; country; date; email address; or language.

[*Paragraph 0343 of Lapstun includes at least the zip code.*]

Instant claim 14: The method as claimed in claim 1, wherein the electronic form is implemented using one of the standardized file formats: HTML, XML, PDF or XForms. [*Paragraph 0380 of Lapstun.*]

Instant claim 19: The method as claimed in claim 1, wherein the electronic form is a paper-based interface provided with coded markings. [*Each netpage (electronic form) is coded with a printed tag (paragraphs 0124-0128 of Lapstun).*]

Instant claim 20: The method as claimed in claim 19, wherein the coded markings are a pattern of infrared markings. [*Paragraph 0128 of Lapstun.*]

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Instant claim 21: The method as claimed in any claim 1, wherein the moveable input device is an optically imaging pen. [*Paragraphs 0223-0238 of Lapstun describe the moveable input device (netpage pen).*]

Instant claim 22: The method as claimed in claim 1, wherein each electronic form is uniquely identified and stored on a network server. [*Paragraph 0126 of Lapstun.*]

Claim Rejections - 35 USC § 103

5. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

6. Claims 1, 4-8, 11-13, 17-19, and 22 are rejected under 35 U.S.C. 103(a) as being unpatentable over Geidl (US 2003/0088410) and in further view of Tsuji et al. (US 2001/0016856).

Instant Claim 1: A method of interpreting data input to an electronic form-based data entry system, including the steps of, performed in a processing system:

receiving movement data from a moveable input device, the movement data associated with a particular field of an electronic form and being generated by the moveable input device

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based on movement of the moveable input device within a corresponding particular field of a printed form associated with the electronic form; *[The handwritten input data (movement data) received by the computing device (touch pad or virtual tablet in combination with a pen or stylus) described by Geidl in paragraphs 0034-0035 and 0037-0038 is the movement data from the moveable input device (pen/stylus). Furthermore, the movement data (handwritten input data) is associated with a particular field as is disclosed by Geidl in paragraphs 0038-0039 and item 202 of Figure 2. Although Geidl has taught the use of forms, Geidl has not taught that the form is a printed form. However, Tsuji has taught a system and method in paragraphs 0037-0043 that utilizes a known printed form that has an electronic version stored in the computing device, and that when the printed form is written upon using the stylus device the movement data is recorded. Thus both Tsuji and Geidl have taught filling out forms electronically using a pen like device and recorded movement data. Additionally, Geidl has taught that several known methods of marking forms using recorded movement data involving a form and pen type device can be used with the context based recognition method taught by Geidl (paragraphs 0034-0035). It would have been obvious to one of ordinary skill in the art to utilize a known method of recording pen movement data relative to known form fields as taught by Tsuji with the context based recognition method taught by Geidl with a reasonable expectation of success in the recognition of the data entered from a pen device to fill out an electronic (also taught by Geidl).]*

determining one or more possible variables of information content in the movement data by applying at least one handwriting algorithm to the movement data; and *[The one or more variables referred to by applicant are text, characters, symbols, or the like generated from handwriting recognition algorithms. Geidl in paragraphs 0038-0049 describes using the natural*

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raw data (pen/stylus motion data), contextual information (context of the particular field), and user-bias data supplied to a (handwriting) recognizer that determines one or more possible variable of information (words, symbols, numbers, or other characters) using a handwriting detection algorithm to translate them from the supplied natural raw data (handwritten information).]

determining a preferred variable of the information content by utilising at least one parameter associated with the particular field of the electronic form. *[See above comments and cited paragraphs, wherein it was discussed that Geidl uses the contextual fields to logically limit the possible variables of the recognizer. Geidl limits the dictionary of words, characters, symbols, or characters recognized by the handwriting recognition software by giving each field a context. This limited dictionary reduces the number of possibilities for the recognizer (OCR, handwriting recognition algorithm) and thus increases the accuracy and efficiency of the recognition process.]*

Instant Claim 4: The method as claimed in claim 1, wherein determining the preferred variable of the information context is performed contemporaneously with receiving the movement data. *[As per the rejection of claims 1 and 2 the contextual information is used in conjunction with the movement data to determine the variable (word/symbol/character.....). Furthermore, the recognizer determines the variables upon reception of the data and thus it is inherent since there are no other steps between reception and recognition of the data that the reception and recognition occur "contemporaneously".]*

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Instant claim 5: The method as claimed in claim 1, wherein the moveable input device is a pen-like device. [*As per the discussion of Tsuji and Geidl the moveable input device is pen-like.*]

Instant claim 6: The method as claimed in claim 1, wherein determining the possible variables of information content utilises stroke information contained within the movement data. [*The movement data created by the pen-like device described by Geidl that is used to determine handwriting that is inherently comprised of a series of strokes, and thus the movement data is inherently stroke information.*]

Instant claim 7: The method as claimed in claim 1, wherein the particular field of the electronic form is associated with a pre-defined dictionary [*Paragraph 0039 of Geidl has disclosed that a dictionary of variables is used.*]of possible variables of information content, the dictionary being used in determining the preferred variable of the information content. [*As per the above discussion of claim 1, Geidl has taught the contextual recognition of characters entered in a field by limiting the values (variables) that are recognized. For example see telephone numbers in paragraphs 0041-0042 of Geidl where the dictionary is limited to numerals 0-9.*]

Instant claim 8: The method as claimed in claim 7 wherein, certain entries in the dictionary are assigned a higher probability of being the preferred variable of the information content. [*As per the discussion of instant claim 7, numbers in a telephone field are assigned all the probability, whereas other characters are given a value of zero.*]

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Instant claim 11: The method as claimed in claim 1, wherein the particular field of the electronic form is a telephone member field and the possible variables of information content are constrained to include only numerals. [*Paragraphs 0041-0042 of Geidl.*]

Instant claim 12: The method as claimed in claim 1, wherein the particular field of the electronic form is a credit card number field and the possible variables of information content are constrained to include only a fixed number of numerals, the numerals being further verifiable by use of a checksum. [*Geidl has taught the use of a credit card field in paragraphs 0042-0043 (including table, and as per the discussion of paragraphs 0041-0042 has taught (as an example of contextual field application) the constraining of the variables to numerals as well as constraining the field to a particular number of digits. Based on the teachings of Geidl it would have been obvious to one of ordinary skill in the art to apply the same criteria used for a field of numbers as was specifically taught for a set of telephone numerals to other sets of numerals with known characteristics such as credit card numbers with a reasonable expectation of success in contextual recognition of the data.*]

Instant claim 13: The method as claimed in claim 1, wherein the particular field of the electronic form from the set including: zip/post code; country; date; email address; or language. [*Paragraphs 0042-0043 (including the table) of Geidl have taught the particular field being a zip-code, date, country, and email address field.*]

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Instant claim 17: The method as claimed in claim 1, wherein a field mask is associated with the particular field of the electronic form, the field mask used to check that a possible variable of information content conforms with a predefined string pattern. [*Paragraph 0049 of Geidl has taught a field mask (rules for a particular field) that defines pre-established patterns of character strings to be entered.*]

Instant claim 18: The method as claimed in any claim 1, wherein a possible variable of information content is derived from a selection list, or combination list involving previously determined preferred variables. [*Geidl has taught user bias lists in paragraph 0051 such that known or often used data associated with a particular field is given higher weight in the recognition process (paragraph 0051).*]

Instant claim 19: The method as claimed in claim 1, wherein the electronic form is a paper-based interface provided with coded markings. [*Tsuji has taught that each form is associated with a particular ID (ID is printed on form in some manner) in paragraph 0043 that identifies the form (in order to identify the form based on an ID number the value must inherently be unique).*]

Instant claim 22: The method as claimed in claim 1, wherein each electronic form is uniquely identified and stored on a network server. [*See discussion of claim 19 and paragraphs 0042 of Tsuji.*]

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7. Claim 3 is rejected under 35 U.S.C. 103(a) as being unpatentable over Geidl in view of Tsuji as applied to claim 1 above, and further in view of Seni (US 2003/0007018).

Instant Claim 3: The method as claimed in claim 1, wherein determining the preferred variable of the information content utilises a probability value assigned to each of the possible variables of information content. *[Geidl in view of Tsuji has disclosed a method of recognizing handwritten data by associating that data with the context of the field it has been written in wherein the context of the field is assigned prior to the use of the field (application and form specific). Geidl does not disclose the assignment of a probability value, but in paragraph 0004 Geidl cites that it was common to assign probability values to words (variables). This practice is to increase the accuracy and efficiency of the recognition process, and to improve error correction when the first or subsequent "best guesses" are incorrect, because it gives additional words, characters, or symbols that could be the word, character, or symbol in question. Seni in paragraphs 0019-021 teaches the use of such confidence or probability scores in assisting the recognition of handwritten information. It would have been obvious to one of ordinary skill in the art to modify the teachings of Geidl in view of Tsuji to include further error correction of the handwriting recognition using a known method such as the one taught by Seni in order to increase the accuracy and efficiency of handwriting recognition as is taught by Seni, Geidl, and Tsuji.]*

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8. Claim 9 is rejected under 35 U.S.C. 103(a) as being unpatentable over Geidl in view of Tsuji as applied to claims 1 and 7 above, and further in view of Sidles (US 2002/0062342) and Minkler (US 4712174).

Instant claim 9: The method as claimed in claim 7, wherein the particular field of the electronic is a name field and the dictionary includes an indication of gender associated with selected names. *[Geidl in view of Tsuji have taught the filling out of form data based on entered data and contextual data, but have not specifically taught the association of a name with gender or other information. However, Sidles has taught in paragraphs 0072 and 0088 the automated population of form data with information associated with a particular name once the name has been entered (saves the user time of entering the additional data), but does not specify that gender information is included. However, Minkler has taught in column 4 lines 54-63 and column 5 lines 43-58 the association of a name with gender, address, and other information based on previously recorded data (list or dictionary). It would have been obvious to one of ordinary skill in the art to modify the associated list of information of Sidles with further information such as gender as taught by Minkler to expand the list of information used to fill out various forms. Given that it was known to one of ordinary skill in the art at the time of the invention to associate names with additional data as taught by Sidles and Minkler such as gender and to automatically populate this information (Sidles), then it would have been obvious given the teachings of Geidl and Tsuji (filling out forms using contextual information) to associate the name entered in a field with the additional information in the dictionary such as gender to efficiently populate the fields in the form with associated data.]*

9. Claim 10 is rejected under 35 U.S.C. 103(a) as being unpatentable over Geidl in view of Tsuji as applied to claims 1 and 7 above, and further in view of Scanlon (US 5850480).

Instant claim 10: The method as claimed in claim 1, wherein the particular field of the electronic form is an address field having sub-fields arranged hierarchically such that the preferred variable of the information content in a sub-field may be used to constrain possible variables of information content in another sub-field. *[Geidl in view of Tsuji have taught the entry of data into fields, but have not taught an address field with an hierarchically arrangement of sub-fields such that data in the sub-field is constrained based on the information content in another field. However, Scanlon has taught in columns 3-4 the filling out of forms using (including address fields) by constraining the sub-strings of lexicons based on how they are related and associated with one another in a composite lexicon character string. For example: An address fields is comprised of a string of lexicons wherein the sub-strings are numbers (relating to street address) and characters (relating to particular street). The constraining of lexicons (as taught by Scanlon in columns 3-4) improves the recognition accuracy of the optical character recognition. It would have been obvious to one of ordinary skill in the art at the time of the invention to modify the character recognition method of Geidl and Tsuji to limit the characters based on contextual data (also taught by Geidl) such as address data as taught by Scanlon to improve recognition accuracy.]*

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10. Claim 14 is rejected under 35 U.S.C. 103(a) as being unpatentable over Geidl in view of Tsuji as applied to claim 1 above, and further in view of Glogau (US 5983351)

Instant claim 14: The method as claimed in claim 1, wherein the electronic form is implemented using one of the standardized file formats: HTML, XML, PDF or XForms. [*Both Geidl and Tsuji has taught the use of stored forms, but have not disclosed the particular file format. However, as has been evidenced by the teachings of Glogau in column 1 lines 15-23 the use of HTML file format for storing form data was well known to one of ordinary skill in the art at the time of the invention. It would have been obvious to one of ordinary skill in the art at the time of the invention to modify the stored form data of Geidl in view of Tsuji to utilize a well known file format for storing the form data as evidenced by the teachings of Glogau. Furthermore, one of ordinary skill in the art at the time of the invention would have had a reasonable expectation for success in storing the form data of Geidl and Tsuji in a known format such as HTML as disclosed by Glogau.*]

11. Claim 20 is rejected under 35 U.S.C. 103(a) as being unpatentable over Geidl in view of Tsuji as applied to claims 1 and 19 above, and further in view of Dymetman et al. (US 2002/0020750)

Instant claim 20: The method as claimed in claim 19, wherein the coded markings are a pattern of infrared markings. [*As per the above discussions, Geidl in view of Tsuji has taught the*

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printing of ID markings on the form in order identify the form and the form's contents, but Tsuji has not taught that these markings are infrared. However, Dymetman has taught in paragraphs 0056, 0059, 0066-0067, 0073,0078, 010-0113 the marking of a physical medium (document, form, etc...) with infrared markings (), and reading the markings to identify the form.

Furthermore, in paragraph 0113 Dymetman has taught that it was advantageous to use a type of marking that would not interfere with the visible ink. It would have been obvious to one of ordinary skill in the art at the time of the invention to modify the printed ID markings of Geidl in view of Tsuji with infrared ID markings as taught by Dymetman to reduce the interference of the markings with the visible printed marks on the document.]

12. Claim 22 is rejected under 35 U.S.C. 103(a) as being unpatentable over Geidl in view of Tsuji as applied to claims 1 and 19 above, and further in view of Brooks et al. (US 2002/107885)

Instant claim 22: The method as claimed in any claim 1, wherein the moveable input device is an optically imaging pen. *[Geidl has taught in paragraphs 0035 and 0045 the use of touch-pads, digitizers, and electronic ink systems in recording the data generated in the field (handwriting), but neither Geidl nor Tsuji have specified that the device is an optical pen. However, Brooks has taught in paragraph 0004 a system similar to that of Geidl and Tsuji that records data entered onto a physical medium (document or form) in the electronic copy (referred to as electronic ink). Additionally, Brooks has taught in paragraph 0033 that the moveable input device is an optical pen. It would have been obvious to one of ordinary skill in the art at the time of the invention to substitute the movable input device for recording electronic ink as taught by Geidl and Tsuji for*

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a device that accomplishes the same task (optical pen) as taught by Brooks with a reasonable expectation for success in recording electronic ink (taught by Geidl, Tsuji, and Brooks).]

Conclusion

13. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

Contact Information

14. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Nathan Bloom whose telephone number is 571-272-9321. The examiner can normally be reached on Monday through Friday from 8:30 am to 5:00 pm (EST).

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If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Matthew Bella, can be reached on 571-272-7778. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

/Matthew C Bella/

Supervisory Patent Examiner, Art Unit 2624